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Impact of Job information Centers on Educational Outcome and Intergenerational Educational Mobility in Germany

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ABSTRACT

Impact of Job information Centers on Educational Outcome and Intergenerational Educational Mobility in Germany

Using survey based data on actual and parental education this Work Project explores intra- and intergenerational effects of job information centers on the individual secondary and tertiary educational outcome. The treatment effect is estimated in a difference-in-difference setup exploiting exogenous variation over time and across districts of openings of job information centers. I find significant effects of both intra- and intergenerational quality on tertiary and secondary education. The results suggest that providing job-related information through public establishments such as job information centers can be a powerful tool of public policy.

Keywords: education, intergenerational mobility, job information centers, information

I Introduction

Speaking idealistically a fair society grants equal chances to every one of its members. And even though it is widely agreed that this ideal is something worth striving for today's societies are far from living it. In fact there is recent evidence that our socio-economic success in life is significantly determined by that of our parents: **Causa and Johansson (2009)** for instance point out that there is evidence on a significant positive relationship between the parents' socoeconomic status and the child's educational and wage outcome in practically all OECD countries for which respective data is available.

There is little doubt that educational reform is the most powerful tool political entities have available in order to increase intergenerational mobility. But one tool that may have been underestimated in the past is the provision of information on the potential benefits of further education.

In 1976 the Federal Republic of Germany began setting up job information centers (*Berufsinformationszentren*), public establishments that provide detailed and comprehensive information on existing occupations, vocational training, job tasks, local labor market conditions, and higher education. In this Work Project I treat the openings of said job information centers as a quasi-experiment to estimate intra- and intergenerational effects of visiting a job information center on the individual educational outcome. Exploiting exogenous variation over time and across districts of openings of job information centers allows me to estimate the treatment effect in a difference-in-difference setup. For the estimation procedure I use survey-based data on actual and parental secondary and tertiary educational outcome. This data is complemented by individuals' residential histories and data on the availability of job information centers over time and across districts.

I find a significant intragenerational effect on the secondary and tertiary educational outcome: Treatment increases the likelihood of graduating from the highest of the three secondary school

tracks by 28.5 percent and the likelihood of graduating from a university by 22.2 percent. My results suggest no intergenerational effect on secondary education, but a significant intergenerational effect on tertiary education: Students who grew up in a district with a job information center are 12.3 percent more likely to experience upward educational mobility with respect to tertiary education.

The remainder of this Work Project is organized as follows: Section II reviews the existing literature related to the topic. Section III provides a short overview of the German school system. Section IV describes in more detail the concept of job information centers. Section V gives an introduction to the used data and presents some summary statistics. Section VI gives an overview of the employed outcome measures and the composition of the estimation samples. Section VII provides a detailed description of the methodological approach. Section VIII presents the results and Section IV gives some final conclusions.

II Literature Review

The addressed topic is closely related to three strands of literature.

The first strand is literature on intergenerational educational persistence: **Hertz et al. (2007)** explore the intergenerational transmission of educational attainment for an overall sample of 42 countries. They report large regional differences in educational persistence: Whereas Latin America displays the highest, the Nordic countries display the lowest intergenerational correlation. They find that the average correlation between parent and child's schooling has been hovering at around 0.42 over the past five decades. Unfortunately Germany is not part of the sample used by Hertz et al.. Using data from the 2010 European Social Survey **Schneebaum, Rumplmaier, and Altzinger (2014)** explore intergenerational educational persistence in 20 European countries. They find that persistence is highest in the Southern and Eastern European countries, and lowest in the Nordic countries. They estimate the average intergenerational correlation in the 20 countries to be 0.486 which is consistent with the findings

by Hertz et al. (2007). Their estimates range from 0.400 for the Czech Republic to 0.620 for Bulgaria. With an estimate of 0.412 Germany displays relatively low persistence.

The second strand is literature on the effects of counseling and mentoring: **Rodrigues and Planas (2012)** analyze the short-, medium-, and long-term effects of a five-year-after-school program on educational and employment outcomes for a sample of low-performing American high-school students. The program consists of a mentoring, an educational and a financial incentive component. Outcomes are being measured at three points in time: (i) during the last year of the program (ii) three year after the end of the program and (iii) five year after the end of the program. Their findings suggest positive short-run effects on high-school completion and tertiary education. In the long run however effects on educational and employment outcome become statistically insignificant.

The third strand of related literature studies the impact of information on the formation of expectations:

Oreopoulus and Dunn (2013) explore the short-term effects of information provision on the formation of expectations. The authors asked high school students from disadvantaged schools in Canada to take two online surveys, about three weeks apart. Half of the students who took the first survey were shown a 3 minute video about costs, benefits, and access to post-secondary education. They were also invited to use a financial-aid calculator in order to find out if they were eligible for financial aid during post-secondary education. In the second survey three weeks later, students that had been exposed to the treatment had significantly higher expectations regarding the financial returns of post-secondary education. They were also more likely to report aspiring to obtain a college degree and more likely to believe that they were eligible for financial aid.

Nguyen (2008) examines how raising perceived returns to education leads to increasing schooling efforts among students. In a field experiments conducted in Madagascar one group of students were presented basic statistics on future returns to education. Another group wered

introduced to a role model, an educated individual with high income that had grown up in the same school district as the students. A third group received both treatments. The author finds that providing statistics lead to a significant improvement in students' test scores. The effect was more pronounced when students had initially underestimated future returns to education. The results regarding the introduction to a role model are ambiguous: They seem to negate the described effects of statistics but significantly increase schooling efforts among children from a similar family background.

Dinkelman and Martínez (2011) study the impact of information provision about financial aid for higher education on students' effort in primary school. They conducted a field experiment among students of disadvantaged urban schools in Chile: Students were assigned to either a treatment or a control group. Half of the students in the treatment group were shown a DVD that informed about financial aid for higher education. The other half of the treatments group was given a copy of the DVD to watch at home together with their families. Their findings suggest that knowledge of financial aid sources improved among students that were exposed to the treatment while absenteeism fell. However the treatment seemed to have no significant effect on other educational outcomes (e.g. grades).

Saniter and Siedler (2014) explore the effects of individuals' occupational knowledge on educational and labor market outcomes. The authors proxy access to occupational information with mandatory visits to job information centers during secondary school. They exploit exogenous variation in the timing and location of openings of job information centers and estimate the effects in a difference-in-difference setup. They find that students who grew up in a district with a job information center tend to have a smoother transition to the job market than students who went to secondary school in an administrative district without a job information center. Their results further suggest no effect on earnings at any point in life.

With a sample specification similar to the ones used in this Work Project Saniter and Siedler find no effect on the secondary and tertiary educational outcome. For other sample

specifications (e.g. only Western Germany) however, they do.

I will first assess if my data reproduces Saniter and Siedler's findings regarding the intragenerational effect of visiting a job information center on the secondary and tertiary educational outcome. I then aim at adding to the literature by exploring the intergenerational effects of growing up in a district with a job information center on secondary and tertiary education.

III The German School System

For the understanding of the addressed research questions it is essential to have basic knowledge about the German school system: Usually children get enrolled into primary school at the age of six. Depending on their performance during primary school, they choose one out of three tracks: The upper-track *(Gymasium)*, the intermediate-track *(Realschule)* or the lower-track *(Hauptschule)*. The mandatory choice between the three tracks occurs when completing fourth or sixth grade, i.e. at the age of 10 or 12. After completing one of the two lower tracks it is possible to move up to the next higher track given a sufficiently good performance prior to graduation, i.e. a student can enroll into a lower-track school when 10-12 years old and finish secondary schooling with an upper-track degree. Only graduates completing the upper-track get permission to enroll into an institution of tertiary education, e.g. a university.

IV Job Information Centers

This section is supposed to familiarize the reader with the concept of job information centers.

a) Offered Services

Job information centers (*Berufsinformationszentren*) are public establishments that provide detailed and in depth information on a variety of topics such as existing occupations, vocational training, job tasks, future earnings, local labor market conditions, and higher education. Visitors can access that information through different media (e.g. information folders, computers) or

even make use of one-on-one counseling. All described services are completely free of charge.

b) Survey Evidence

In 1991 the Federal Employment agency published in its yearly statistical report the results of a representative survey that was conducted among visitors of job information centers: It concluded that 64 percent of all visitors were students attending secondary school, only 11 percent were economically active, a mere 7 percent unemployed. 70 percent of all visitors were 20 years old or younger. The average age among all visitors was around 21.[1]

c) Development over time

Initiated by the Federal Employment Agency (*Bundesagentur für Arbeit*), the first job information center opened in 1976 in West Berlin. Since the concept was considered a success it was decided to spread the concept over the rest of the Federal Republic of Germany: First to cities with over 500 000 inhabitants then to less densely populated areas. Apart from that there was no criterion that can explain time and location of openings of job information centers. Since this is an important assumption of the used difference-in-difference setup it will be further discussed in Section. After Reunification in 1990 job information centers were also established in former East Germany. In 2010 175 job information centers were open covering 141 of 327 districts in western Germany and 34 of 86 in eastern Germany (**Saniter and Siedler, 2014**).

V Data

The used data set is based on the German Socio-Economic Panel (SOEP) study, a survey based longitudinal study that provides information on nearly 11.000 private households and more than 20.000 individuals every year. It was first launched in 1984 and is being continued in 2017. The survey covers a wide range of topics including household composition, occupational biographies, employment, earnings, health, and, most importantly, education.

The used SOEPcore data set contains in particular information on educational outcomes for all

[1] „Berufsberatung, Ergebnisse der Berufsberatungsstatistik," Nürnberg, October 1992

household members. For a subset of individuals it provides also information on parental educational outcome. This allows me to address research questions of transgenerational quality. The data from the SOEPcore data set was matched with residential histories of households for the time period 1985-2010. It was further complemented by information on the availability of job information centers at the district level.[2]

To estimate intra- and intergenerational effects of visiting a job information center on the individual educational outcome I treat the openings of job information centers as a quasi-experiment. Exploiting the variation over time and across districts of openings of job information centers I estimate the treatment effect in a difference-in-difference setup.

Since I have no information on the actual treatment I proceed as follows: I first compute an individual's potential treatment year and verify if there was a job information center available at the time of potential treatment. If that is the case I consider the individual as treated.

Due to this particularity in the derivation of the treatment variable the treatment effect reduces to an intention to treat effect.

For a detailed description of the difference-in-difference research design please see **Cameron and Trivedi (2005).**

VI Outcome Measures, Estimation Samples, and Descriptive Statistics

a) Outcome Measures:

Accounting for the nature of the captured information I distinguish between intragenerational and intergenerational outcome variables.

The intragenerational outcome variables are defined as follows: The variable *lower-track degree* equals one if the individual has successfully completed the general school track and zero otherwise. *Intermediate-track degree* is a dichotomous outcome variable that equals one if the

[2] I thank Saniter and Siedler for providing me with information on the availability of job information centers at the district level

individual obtained *Mittlere Reife*. The variable *upper-track degree* equals one if the individual received the highest secondary school degree and zero otherwise. The three variables *lower-track degree, intermediate-track degree,* and *upper-track degree* are mutually exclusive, i.e. for one individual only one of the three variables can evaluate to one. Finally the fourth and last intragenerational outcome variable *university degree* is also dichotomous and equals one if the individual successfully obtained an academic degree.

In order to capture intergenerational effects of the treatment two more outcome variables are constructed as follows: The dichotomous variable *intergenerational mobility (secondary education)* equals one if both parents finished secondary schooling with a degree lower than the individual's. If one of the parents attained a secondary school degree equal to or higher than the individual's the variable evaluates to zero. *Intergenerational mobility (tertiary education)* is also a dichotomous variable that equals one if the individual successfully obtained an academic degree while both of the individual's parents have not. Summary statistics of the employed outcome measures are reported in Table 1 in the Appendix.

b) Estimation Samples:

The four estimation samples can be classified as either *intra-* or *intergenerational* according to the nature of the respective outcome measures:

- *Intragenerational Sample #1* is comprised of all individuals for whom the secondary educational outcome has been observed and who were born between 1972 and 1993.
- *Intragenerational Sample #2* consists of individuals for whom information on tertiary education exists. It is restricted to individuals who were born between 1972 and 1987.
- *Intergenerational Sample #1* contains all individuals for whom the indicator *intergenerational mobility (secondary education)* could be derived and who were born between 1972 and 1993.
- *Intergenerational Sample #2* is comprised of individuals for whom the outcome variable *intergenerational mobility (tertiary education)* could be computed. It only contains

individuals who were born between 1972 and 1987.

A short note on the choice if individuals' years of birth in the four samples: The available residential histories cover the time period 1985-2010, i.e. the treatment variable can be derived only for individuals with a potential treatment year within this time period. In the shortest of the three school tracks (lower-secondary school track) students usually visit a job information center at the age of 13. This reasoning leads to 1985-13=1972. Students attending the longest of the three school tracks usually visit a job information center at the age of 17. That is why the last birth cohort in the two samples that require information on the highest secondary degree is 2010-17=1993. Most students complete their first university degree by the time they are 27. Since the used SOEPcore data set was created in 2014, 2014-27=1987 is the last birth cohort in the two samples that require information on a university degree.

c) Descriptive Statistics

Table 1 in the Appendix reports summary statistics for the key variables. Unconditional means are reported by sample and treatment status alongside with differences between treatment and control group. *Intragenerational Sample #1* displays differences in the distribution of individuals among the three tracks for the treatment and the control group: Whereas a lower proportion of untreated individuals successfully obtained a lower-track secondary degree, a higher proportion of treated individuals successfully finished the upper secondary track. The distribution in *Intragenerational Sample #2* points towards a positive treatment effect on the chances of graduating from a university: Among the individuals that grew up in a district with a job information center a higher proportion successfully attained a tertiary degree. The difference in unconditional means *Intergenerational Sample #2* also suggests an effect on intergenerational educational mobility: Among the students who visited a job information center a higher percentage experienced upward intergenerational mobility in respect to tertiary education. All mentioned differences in distributions between the treatment and the control group are statistically significant at a 1 percent level.

VII Methodology

To estimate the effect of visiting a job information center on educational outcome and intergenerational mobility I treat the openings of job information centers as a quasi-experiment. Exploiting the variation over time and districts of openings of job information centers allows me to estimate the treatment effect in a difference-in-difference setup.

With the available data the actual treatment is unobserved. I circumvent this by first computing individuals' potential treatment year and then checking for the availability of a job information center in the district the individual resided in at the time of potential treatment.

a) Potential Treatment Year

Let t_{sec} be the year in which individual i's secondary school spell ends, then the year of potential treatment t is derived as follows:

(i) $t = t_{sec} - 2$, if individual i's highest secondary degree is a lower-track degree

(ii) $t = t_{sec} - 2$, if individual i's highest secondary degree is an intermediate-track degree

(iii) $t = t_{sec} - 3$, if individual i's highest secondary degree is an upper-track degree

b) Treatment Variable

I further dispose of individual i's residential history at the district level (i.e. I know in which district individual i's household is located). This information allows me to proxy treatment in the following way: Let JIC_{idt} be the treatment variable. Then

- $JIC_{idt} = 1$, if there was a job information center available in individual i's residential district d at the time of potential treatment t
- $JIC_{idt} = 0$, otherwise.

Due to this particularity in my methodological approach the treatment effect reduces to an average intention to treat effect.

A short note on the choice of the 402 district as the prefered administrative entity for my research design: The next higher level of the 16 federal states would overestimate the catchment area of job information centers. Moreover it would yield no numerically balanced distribution of individuals over treatment and control group. The next lower administrative level of 11,442 municipalities would underestimate the catchment area of job information areas. [3]

c) Specification of the Model

The employed model takes on the following form:

$$y_{idt} = +\beta JIC_{idt} + \sum\gamma_{district} + \sum\delta_{yearofbirth} + \theta G_i + \zeta M_i + \varepsilon_i$$

The term $\sum\gamma_{district}$captures up to 402 district fixed effects. $\sum\delta_{yearofbirth}$captures up to 22 birth cohort fixed effects. $G_i$and $M_i$are dummy variables for gender and migrant background.

d) Robustness Check

To check the robustness of the obtained results the model is re-estimated using the stepwise command with a threshold of pr= 0.05. Employing the stepwise command entails an algorithmic estimation procedure can be broken down to four essential steps:

i) The model is estimated.
ii) The least significant independent variable with a p-value greater than pr= 0.05 gets dropped.
iii) The model is estimated with the remaining variables.

Steps i) – iii) are repeated until all remaining variables have a p-value below or equal to 0.05.

e) Identifying Assumptions

The difference-in-difference research design requires the validity of the following two identifying assumptions:

[3] The numbers reflect the status as of September 4, 2011.

1. Timing and location of openings of job information centers are exogenous, i.e. unrelated to any of the outcome variables.
2. Outcome variables and related variables follow a parallel trend in the treated and the control group.

Finding evidence on the first assumption would go beyond the scope of this Work Project and be hardly possible with the relatively small SOEPcore data set. **Saniter and Siedler (2014)** however tested the first assumption by estimating discrete-time logistic hazard models using administrative data on 1.66 million individuals and 40.5 million spells. They found that the only district specific variables that are statistically significantly related to the timing and the location of openings of job information centers are the physical and the population size of the district. This finding is in line with the aforementioned intention of the Federal Employment Agency to set up job information centers in cities first.

Figure 1 in the Appendix presents graphical illustrations of the development of the used outcome variables over time for both treated and untreated individuals. The overall picture presents good evidence for the common trend assumption. All time trends of intragenerational outcome measures display relatively pronounced spikes around the year 1990 for the control group which can explained by the administrative procedures that were part of the reunification between the Federal German Republic and the German Democratic Republic.

VIII Results

Please see Table 2 for a detailed report of estimates of the treatment effect and the impact of other key variables. Table 3 reports estimates of the same variables after the application of the stepwise robustness check.

a) Intragenerational Outcome Variables

Lower-track degree: The results suggest an 8.7 percent decrease in the likelihood of completing a lower-track secondary degree when visiting a job information center ceteris paribus. This

result is significant at a 5 percent level. The treatment variable stays in the model when checking for robustness using the stepwise command.

Intermediate-track degree: Students who visited a job information center are 19.7 percent less likely to complete an intermediate-track secondary degree. This effect is significant at a 1 percent level. It does however not stay in the model after conducting the robustness check: The treatment variable drops out with a p-value of 0.2038 during the stepwise procedure.

Upper-track degree: Being exposed to the information program increases the likelihood of graduating from an upper-track secondary school by 28.5 percent when holding all other independent variables constant. This result is significant at a 1 percent level. The treatment variable survives the stepwise robustness check.

University degree: The likelihood of graduating from a university is 20.2 percent higher when growing up in a district with a job information center. This estimate is significant at a 1 percent level. The treatment variable stays in the model during the robustness check. The coefficient's value however drops from 20.2 to a mere 8.6 percent.

To sum it up I find estimates suggesting impressively high intragenerational effects on individuals' secondary and tertiary educational outcome. The signs of all estimates make sense from an intuitive point of view: If students have easier access to information on the potential benefits of continuing secondary schooling or getting a university degree, they are obviously more likely to do so, therefore the lower probability of finishing secondary schooling with a lower-track or an intermediate-track degree and the higher probability of getting an upper-track or a university degree.

All in all I would say that the found intragenerational effects are desirable as they point towards a generally higher educational level for society as a whole.

When using a sample specification similar to *Intragenerational Sample #1/#2* **Saniter and Siedler (2014)** get results that suggest no significant effects on the discussed outcome variables.

When excluding all districts that never experienced treatment they find the following significant effects on (*intermediate-track*/*upper-track*/*university*) *degree:*

(-0.095**/0.120***/0.108***)[4]. In this case my estimates' signs coincide with Saniter and Siedler's, in absolute values however they differ remarkably: (-0.198***/0.285***/0.202***)[5]

a) Intrergenerational Outcome Variables

Intergenerational mobility (secondary education): The OLS estimate of the treatment effect on intergenerational mobility regarding secondary education is not significant at a 10 percent level. This finding is in line with the fact that the treatment variable drops out with a p-value of 20.5 during the stepwise robustness check.

Intergenerational mobility (tertiary education): Growing up in a district with a job information center increases the likelihood of experiencing upward intergenerational mobility by 12.3 percent ceteris paribus. This result is significant at a 1 percent level. The treatment variable survives the stepwise robustness check but drops from 12.3 to a mere 3.7 percent.

The results suggests that job information centers are an effective tool to promote intergenerational mobility with respect to tertiary education. In their current conceptual design they seem however inapt to foster intergenerational mobility with respect to secondary education. Possibly a conceptual adjustment would suffice to motivate children from lower educational backgrounds in taking the decision to continue secondary schooling in a higher track. If not one would have to think about alternative instruments.

IV Conclusions

In 1976 the German "Federal Employment Agency" started setting up job information centers, public establishments that provide information on a variety of job-related topics. As it was

[4] * Significant at a 10 percent level. **Significant at a 5 percent level. *** Significant at a1 percent level.

[5] * Significant at a 10 percent level. **Significant at a 5 percent level. *** Significant at a1 percent level.

considered a success it was decided to spread the concept all over the Federal Republic of Germany. After Reunification in 1990 the new states of Eastern Germany were included in the information program. In 2010 in about 40 percent of all existing districts a job information center had been established.

I exploit the exogenous variation over time and across regions in the openings of job information centers to estimate intra- and intergenerational effects of visiting a job information center on the individual educational outcome. I find significant intragenerational effects on the individual secondary educational outcome: Students who grew up in a district with job information center are less likely to graduate from a lower-track or an intermediate-track secondary school and more likely to graduate from an upper-track secondary school. They have moreover a higher probability to end up with a university degree.

Whereas I can find no intergenerational effect on secondary education, my results suggest an intergenerational impact on tertiary education: Individuals who resided in a district with a job information center when going to secondary school are more likely to experience upward intergenerational educational mobility with respect to tertiary education.

Overall my results suggest that providing job-related information through public establishments such as job information centers has the potential to serve as a powerful tool of public policy - in particular for loosening existing transgenerational rigidities in today's societies. If it should serve as means of loosening transgenerational rigidities with respect to secondary education the concept needs to be adjusted in a way such that more children from lower educational family backgrounds benefit from the effects.

References

Causa O.,and Å. Johansson (2009): „Intergenerational Social Mobility," *Oecd Economics Department Working Papers No. 707.*

Cameron A., P. Trivedi (2005): "Microeconometrics Methods and Applications," *Cambridge University Press*

Hertz, T., T. Jayasundera, P. Piraino, S. Selcuk, N. Smith, and A. Verashchaginav (2007): "The Inheritance of Educational Inequality: International Comparisons and Fifty-Year Trends," *The B.E. Journal of Economic Analysis & Policy: Vol. 7: Iss. 2 (Advances), Article 10.*

Rodríguez-Planas, N. (2012): "Longer-Term Impacts of Mentoring, Educational Services, and Learning Incentives: Evidence from a Randomized Trial in the United States, " *American Economic Journal: Applied Economics 4(4), 121–139.*

Schneebaum A., B. Rumplmaier, and W. Altzinger (2014): "Intergenerational Educational Persistence in Europe, "

Saniter N. and T. Siedler (2014): "The Effects of Occupational Knowledge: Job Information Centers, Educational Choices, and Labor Market Outcomes, " *IZA Discussion Paper (8100)*

Martínez, A. and T. Dinkelman (2013): "Investing in Schooling in Chile: The Role of Information about Financial Aid for Higher Education." *Review of Economics and Statistics (forthcoming).*

Nguyen, T. (2008): "Information, Role Models and Perceived Returns to Education: Experimental Evidence from Madagascar," *mimeo.*

Oreopoulos P., R. Dunn (2013): "Information and College Access: Evidence from a Randomized Field Experiment, " *Scandinavian Journal of Economics, Wiley Blackwell, vol. 115(1), pages 3-26, 01.*

APPENDIX

Table 1
(Descriptive Statistics)

Intragenenerational Sample #1

Key variables	JIC=1	JIC=0	Δ
Lower-track school degree	0.17	0.223	-0.053***
Intermediate-track school degree	0.349	0.379	-0.03**
Upper-track school degree	0.481	0.397	0.084***
Female	0.504	0.516	-0.013
Migrant background	0.073	0.058	0.014*
Number of individuals	2127	2086	

Intragenerational Sample #2

Key variables	JIC=1	JIC=0	Δ
University degree	0.223	0.158	0.065***
Female	0.507	0.52	-0.012
Migrant background	0.084	0.07	0.013
Number of Individuals	1640	1622	

Intergenerational Sample #1

Key variables	JIC=1	JIC=0	Δ
Intergenerational mobility (secondary education)	0.139	0.143	0.004
Female	0.465	49.4	0.029
Migration background	0.097	0.069	0.029**
Number of individuals	1101	1253	

Intergenerational Sample #2

Key variables	JIC=1	JIC=0	Δ
Intergenerational mobility (tertiary education)	0.102	0.075	0.027***
Female	0.507	0.519	-1.19
Migrant background	8.38	6.94	0.014
Number of individuals	1539	1527	

Table 2
(OLS estimates)[6]

Spalte1	Lower-track degree	Intermediate-track degree
Job information center	-0.087**	-0.198***
	(0,043)	(0.054)
Female	-0.086***	0.0162
	(0,012)	(0,015)
Migrant background	0.07***	0,059*
	(0.026)	(0,033)
Number of individuals	4213	4213
Sample	Intragenerational Sample #1	Intragenerational Sample #1

Spalte1	Upper-track degree	University degree
Job information center	0.285***	0.202***
	(0.054)	(0.045)
Female	0.07***	0,034**
	(0.015)	(0.014)
Migrant background	-0.13***	-0,102***
	(0.033)	(0.029)
Number of individuals	4213	3262
Sample	Intragenerational Sample #1	Intergenerational Sample #2

Spalte1	Intergenerational mobility	Intergenerational mobility
	(secondary education)	(tertiary education)
Job information center	0.075	0.123***
	(0.048)	(0.035)
Female	0.034**	0.000
	(0.015)	(0.011)
Migrant background	-0.135***	-0.057***
	(0.03)	(0.022)
Number of individuals	2354	3066
Sample	Intergenerational Sample #2	Intergenerational Sample #2

[6] * Significant at a 10 percent level. **Significant at a 5 percent level. *** Significant at a1 percent level.

Table 3
(OLS estimates after robustness check)[7]

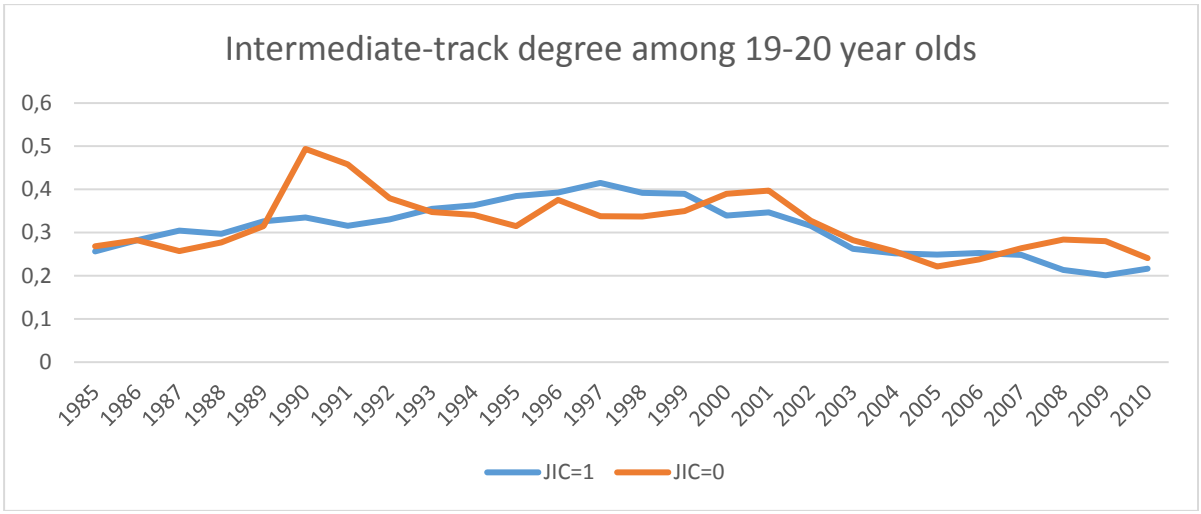
	Lower-track degree	Intermediate-track degree
Job information center	-0.072***	-
	(0.013)	-
Female	-0.078***	-
	(0.012)	-
Migrant background	0.092***	-
	(0.024)	-
Number of individuals	4213	4213
Sample	Intragenerational Sample #1	Intragenerational Sample #1

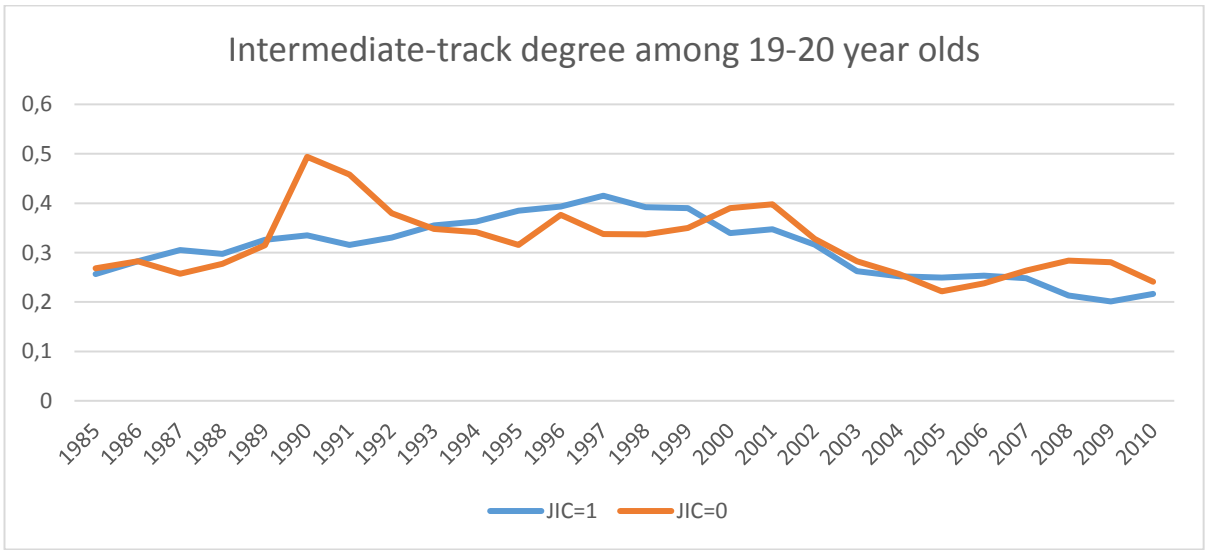
Spalte1	Upper-track degree	University degree
Job information center	0.121***	0.086***
	(0.016)	(0.0139)
Female	0.068***	0.035***
	(0.015)	(0.0132)
Migrant background	-0.138***	-0.101***
	(0.03)	(0.025)
Number of individuals	4213	3262
Sample	Intragenerational Sample #1	Intragenerational Sample #2

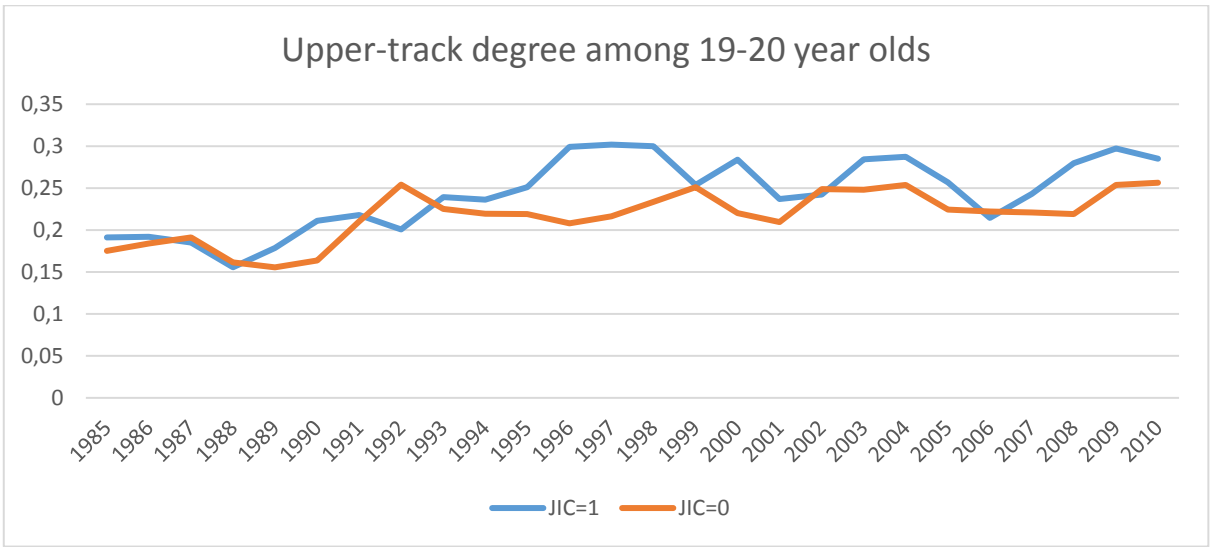
Spalte1	Intergenerational mobility	Intergenerational mobility
	(secondary education)	(tertiary education)
Job information center	-	0.037***
	-	(0.0104)
Female	0.031**	-
	(0.014)	-
Migrant background	-0.119***	-
	(0.026)	-
Number of individuals	2354	3066
Sample	Intergenerational Sample #1	Intergenerational Sample #2

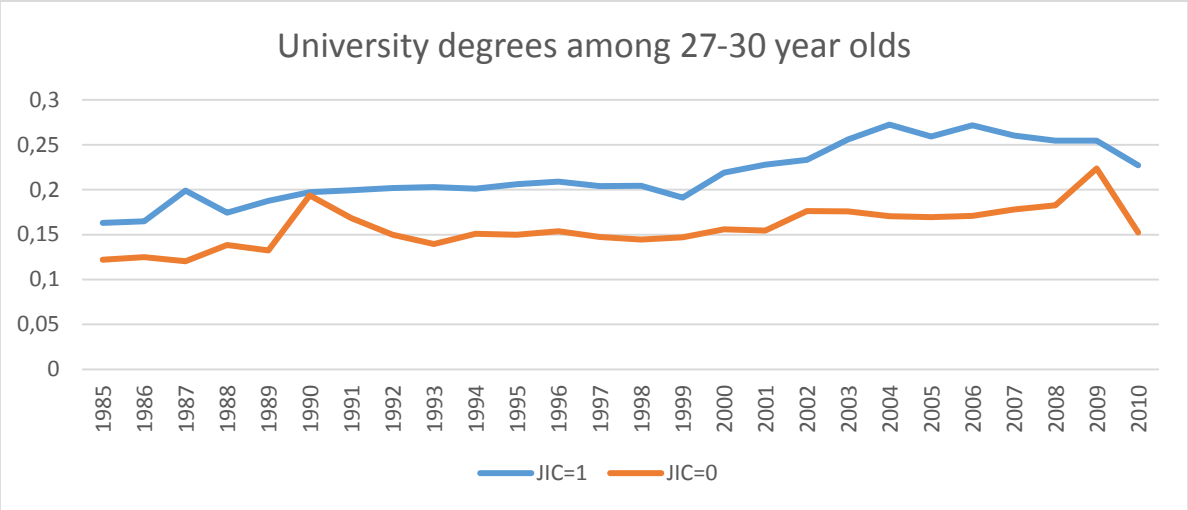
[7] * Significant at a 10 percent level. **Significant at a 5 percent level. *** Significant at a1 percent level.

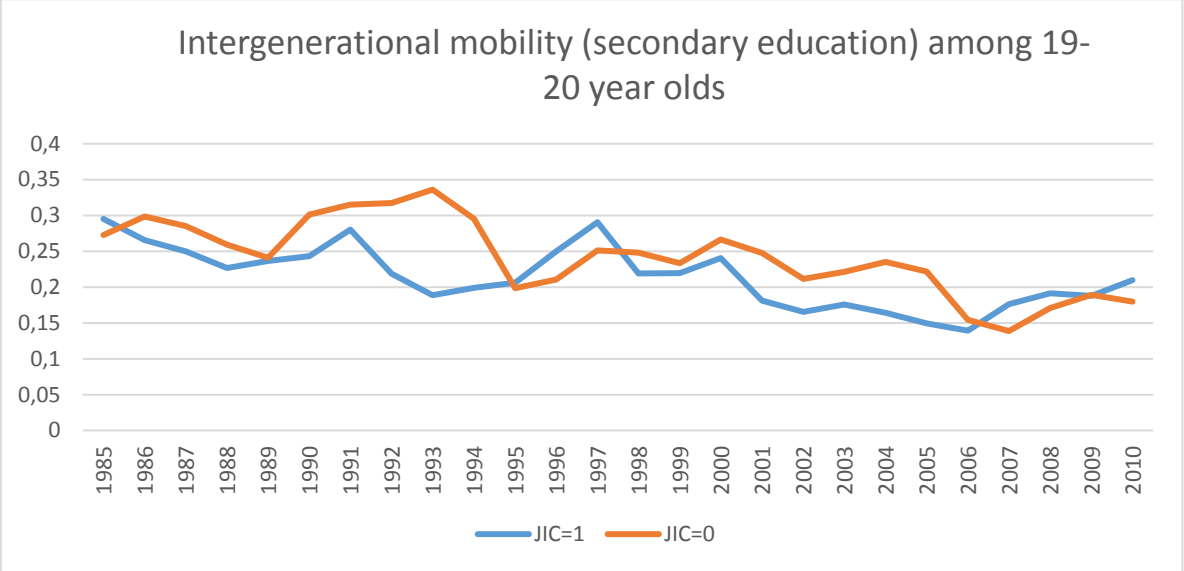
Figure 1
(Common Trends)

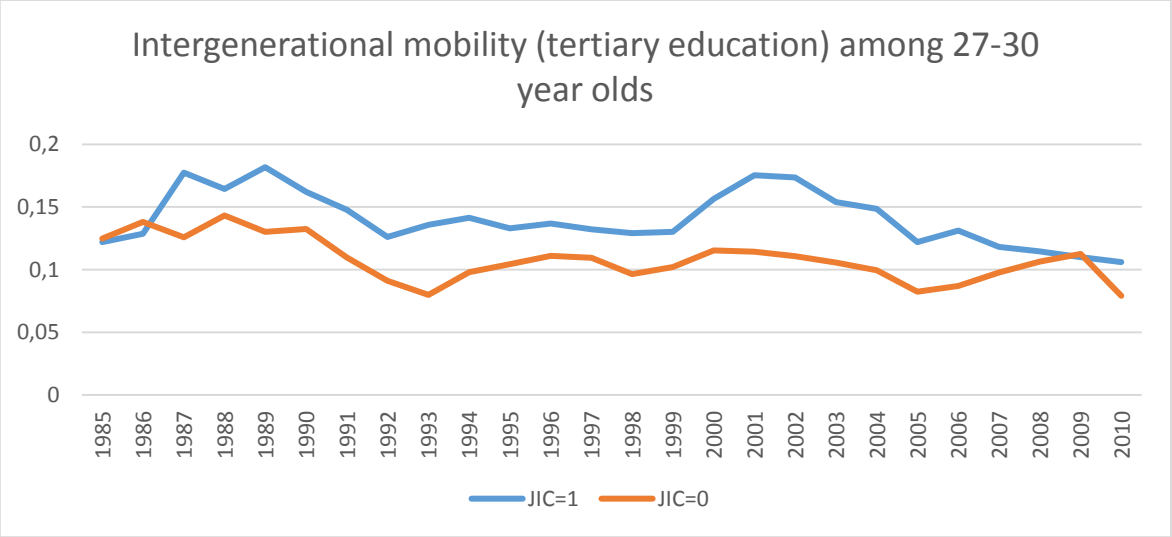







University degrees among 27-30 year olds
0,3
0,25
0,2
0,15
0,1
0,05
0
1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010
JIC=1
JIC=0


Intergenerational mobility (secondary education) among 19-20 year olds
0,4
0,35
0,3
0,25
0,2
0,15
0,1
0,05
0
1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010
JIC=1
JIC=0


Intergenerational mobility (tertiary education) among 27-30 year olds
0,2
0,15
0,1
0,05
0
1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010
JIC=1
JIC=0